

Overview of materials for Polybutylene Terephthalate (PBT), 10% Glass Fiber Filled

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), 10% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polybutylene Terephthalate (PBT), 10% Glass Fiber Filled". Specific grades with glass content between 5% and 14% are included. Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polybutylene-Terephthalate-PBT-10-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.11 - 1.55 g/cc	0.0401 - 0.0560 lb/in ³	Average value: 1.39 g/cc Grade Count:88
	1.19 - 1.31 g/cc @Temperature 250 - 250 °C	0.0430 - 0.0473 lb/in ³ @Temperature 482 - 482 °F	Average value: 1.25 g/cc Grade Count:2
Filler Content	5.00 - 15.0 %	5.00 - 15.0 %	Average value: 10.0 % Grade Count:13
Water Absorption	0.0600 - 0.500 %	0.0600 - 0.500 %	Average value: 0.273 % Grade Count:25
Moisture Absorption at Equilibrium	0.0400 - 0.220 %	0.0400 - 0.220 %	Average value: 0.155 % Grade Count:31
Viscosity	240000 - 240000 cP @Temperature 250 - 250 °C	240000 - 240000 cP @Temperature 482 - 482 °F	Average value: 240000 cP Grade Count:1
	240000 - 240000 cP @Shear Rate 1000 - 1000 1/s	240000 - 240000 cP @Shear Rate 1000 - 1000 1/s	Average value: 240000 cP Grade Count:1
Viscosity Test	80.0 - 145 cm ³ /g	80.0 - 145 cm ³ /g	Average value: 110 cm ³ /g Grade Count:7
Maximum Moisture Content	0.0200	0.0200	Average value: 0.0200 Grade Count:6
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.00804 cm/cm Grade Count:75
Linear Mold Shrinkage, Transverse	0.00100 - 0.0160 cm/cm	0.00100 - 0.0160 in/in	Average value: 0.00953 cm/cm Grade Count:32
Melt Flow	4.00 - 60.0 g/10 min	4.00 - 60.0 g/10 min	Average value: 23.0 g/10 min Grade Count:41

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	83.0 - 120	83.0 - 120	Average value: 98.2 Grade Count:6
Hardness, Rockwell R	117 - 119	117 - 119	Average value: 118 Grade Count:7
Ball Indentation Hardness	160 - 170 MPa	23200 - 24700 psi	Average value: 163 MPa Grade Count:3
Tensile Strength, Ultimate	12.5 - 110 MPa	1810 - 16000 psi	Average value: 75.0 MPa Grade Count:65
	50.0 - 130 MPa @Temperature -20.0 - 100 °C	7250 - 18900 psi @Temperature -4.00 - 212 °F	Average value: 53.1 MPa Grade Count:1
	3.73 - 125 MPa @Temperature -40.0 - 160 °C	541 - 18100 psi @Temperature -40.0 - 320 °F	Average value: 53.1 MPa Grade Count:2
	3.73 - 125 MPa @Strain 0.250 - 10.0 %	541 - 18100 psi @Strain 0.250 - 10.0 %	Average value: 53.1 MPa Grade Count:2
Tensile Strength, Yield	49.0 - 100 MPa	7100 - 14500 psi	Average value: 76.6 MPa Grade Count:32
Elongation at Break	2.50 - 100 %	2.50 - 100 %	Average value: 7.61 % Grade Count:71
Elongation at Yield	3.50 - 4.00 %	3.50 - 4.00 %	Average value: 3.80 % Grade Count:4
Modulus of Elasticity	2.80 - 6.20 GPa	406 - 899 ksi	Average value: 4.54 GPa Grade Count:54
Flexural Yield Strength	75.0 - 165 MPa	10900 - 23900 psi	Average value: 121 MPa Grade Count:63
	50.0 - 50.0 MPa @Temperature 90.0 - 90.0 °C	7250 - 7250 psi @Temperature 194 - 194 °F	Average value: 50.0 MPa Grade Count:1
Flexural Modulus	0.373 - 9.00 GPa	54.0 - 1310 ksi	Average value: 4.01 GPa Grade Count:61
Shear Modulus	>= 0.219 GPa @Temperature -50.0 - 200 °C	>= 31.8 ksi @Temperature -58.0 - 392 °F	Average value: 0.780 GPa Grade Count:2
Secant Modulus	1.04857 - 6.80 GPa @Temperature -40.0 - 100 °C	152.085 - 986 ksi @Temperature -40.0 - 212 °F	Average value: 3.63 GPa Grade Count:1
	1.04857 - 6.80 GPa @Strain 0.250 - 3.50 %	152.085 - 986 ksi @Strain 0.250 - 3.50 %	Average value: 3.63 GPa Grade Count:1

Izod Impact Notched Mechanical Properties	0.267 - 1.60 J/cm Metric	0.500 - 3.00 ft-lb/in English	Average value: 0.570 J/cm Grade Count:1
	0.48051 - 0.48051 J/cm @Temperature -28.9 - - 28.9 °C	0.90019 - 0.90019 ft- lb/in @Temperature -20.0 - - 20.0 °F	Average value: 0.481 J/cm Grade Count:1
Izod Impact, Unnotched	3.20 - 9.61 J/cm	6.00 - 18.0 ft-lb/in	Average value: 5.96 J/cm Grade Count:8
Izod Impact, Notched (ISO)	3.80 - 23.0 kJ/m ²	1.81 - 10.9 ft-lb/in ²	Average value: 6.79 kJ/m ² Grade Count:17
	3.00 - 5.00 kJ/m ² @Temperature -30.0 - - 30.0 °C	1.43 - 2.38 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 4.33 kJ/m ² Grade Count:3
Izod Impact, Unnotched (ISO)	23.0 - 45.0 kJ/m ²	10.9 - 21.4 ft-lb/in ²	Average value: 36.5 kJ/m ² Grade Count:11
	26.0 - 40.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	12.4 - 19.0 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 33.0 kJ/m ² Grade Count:2
Charpy Impact Unnotched	2.00 J/cm ² - NB	9.52 ft-lb/in ² - NB	Average value: 3.95 J/cm ² Grade Count:44
	2.00 - 19.0 J/cm ² @Temperature -30.0 - 30.0 °C	9.52 - 90.4 ft-lb/in ² @Temperature -22.0 - 86.0 °F	Average value: 4.92 J/cm ² Grade Count:32
Charpy Impact, Notched	0.230 - 1.80 J/cm ²	1.09 - 8.57 ft-lb/in ²	Average value: 0.703 J/cm ² Grade Count:50
	0.210 - 1.00 J/cm ² @Temperature -30.0 - 30.0 °C	0.999 - 4.76 ft-lb/in ² @Temperature -22.0 - 86.0 °F	Average value: 0.582 J/cm ² Grade Count:31
Puncture Energy	1.50 - 1.50 J @Temperature -30.0 - - 30.0 °C	1.11 - 1.11 ft-lb @Temperature -22.0 - - 22.0 °F	Average value: 1.50 J Grade Count:1
Tensile Creep Modulus, 1 hour	3000 - 5500 MPa	435000 - 798000 psi	Average value: 4530 MPa Grade Count:6
Tensile Creep Modulus, 1000 hours	2000 - 5000 MPa	290000 - 725000 psi	Average value: 3580 MPa Grade Count:6
Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+6 - 1.00e+17 ohm-cm	1.00e+6 - 1.00e+17 ohm-cm	Average value: 9.89e+15 ohm-cm Grade Count:55
Surface Resistance	1.00e+6 - 1.00e+17 ohm	1.00e+6 - 1.00e+17 ohm	Average value: 7.79e+15 ohm Grade Count:36

Electrical Properties	Metric 1.30	English 30	Comments ue: 3.56 Grade Count:34
Dielectric Strength	18.5 - 100 kV/mm	470 - 2540 kV/in	Average value: 26.3 kV/mm Grade Count:49
Dissipation Factor	0.00100 - 0.0600	0.00100 - 0.0600	Average value: 0.0116 Grade Count:25
Dielectric Loss Index	0.00200 - 0.0200	0.00200 - 0.0200	Average value: 0.0170 Grade Count:6
Arc Resistance	60.0 - 180 sec	60.0 - 180 sec	Average value: 117 sec Grade Count:14
Comparative Tracking Index	125 - 600 V	125 - 600 V	Average value: 287 V Grade Count:39
Hot Wire Ignition, HWI	7.00 - 120 sec	7.00 - 120 sec	Average value: 25.9 sec Grade Count:6

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